



Description of EP1211212	Print	Copy	Contact Us	Close
--------------------------	-------	------	------------	-------

Result Page

Notice: This translation is produced by an automated process; it is intended only to make the technical content of the original document sufficiently clear in the target language. This service is not a replacement for professional translation services. The esp@cenet® Terms and Conditions of use are also applicable to the use of the translation tool and the results derived therefrom.

derived therefrom.

[0001] The invention relates to a method to rebates of a number of lamina subject-matters, which single in particular follows one another, with the help of a mechanism according to the sword crease principle and an apparatus to the control of a drive of a crease sword to rebates of a number of lamina subject-matters, which single in particular follows one another.

follows one another.

[0002] A crease work working according to the sword crease principle exhibits two rotary moving in opposite

arranged to the crease rolling gap. The crease sword is toward vertical to the plane defined by the crease rolling axes in a plane, which cuts the plane bottom right angle defined

is to the plane defined by the crease rolling axis. By the crease spread

The lamellar subject-matter is in-situ on the plane of the lamellar subject-matter vertical to the crease rolling gap. By frictional engagement between the laminar subject-matter and the

Falzwälsen that by the nip transported becomes. From the described procedure a sharp edged crease break results. In the practice there are both pure sword folding machines, and so called combination folding machines, are provided

with which additional crease works, which work according to the bag crease principle. With the bag crease works typically Parallelfaltungen become generated, while become performed with the sword crease works so called

Kreuzbrüche zeigen, a bottom Kreuzbruchzeichnung understands one a crease line, which runs vertical to a present parallel break crease line.

[0003] The vertical, typically linear sword movement can become different realized. A drive can become inserted, which direct or indirect of the main shaft of the folding machine becomes lapped. Alternative one can become also an

independent single drive for the sword movement used. The drive system can implement thereby on several kinds the necessary movement of the crease sword: For example the sword movement can be cam controlled or however by

means of a thrust crankshaft-and-connecting-rod drive realized. The typically made drive with constant driving speed, which is proportional with the engine speed n , if direct of the drive shaft transmitted. With other words in each case

different conditions exist for various species. A major drawback of such drive systems is that with mechanical drive members only a general movement unitary for all laminar subject-matters of a production lot and/or velocity of the cross wind needed however. Similarly, one is left with the possibility of a production lot and/or velocity of the cross wind needed however. Similarly, one is left with the possibility of a production lot and/or velocity of the cross wind needed however.

in addition to the above-mentioned factors, the following factors may also contribute to the development of the disease:

[0004] A synchronization of the sword movement on the passage of the lamina subject-matters can take place clock-bound, thus in the obligation run with the clock frequency of the folding machine, or clock-unbound, with other words

event-controlled.

direct with the main drive of the first cross work, the conveyor pull, which carry the main subject-matters to the machine described, which is the known event-confronted principle based. In this case the sword drive is

The sword crease unit and which *Falwazen* of the sword crease work coupled. The actual sword drive consists of a crankshaft-and-connecting-rod drive, which is connected over a brake clutch combination frictional with the machine

drive. The arrival of the familiar subject-matter which can be folded becomes detected over a sensor. In order to release the sword stroke, a brake dissolved and the clutch is switched on. The crease sword becomes stopped in the

top dead center, i.e. the brake is switched on and the clutch is switched off, after a signal of the sword drive became obtained.

[0006] The determination of the point of time lag can take place for example on the subsequent paths: In the DE 33 25 139 disclosed becomes, as a crease sword price increase becomes in such a manner performed that the laminar

work achieved. A detector element or a sensor corresponding distance up to the notice in the crease work set becomes

on one the length of the lamellar subject-matter. By means of the detection of the rear edge of the lamellar subject-matter which can be folded, which ran into the crease work, the crease sword stroke becomes triggered and again

stopped in the top dead center.

which covers a pneumatic stroke drive. In order to prevent a malfunction of the crease sword drive a larger committee, detecting means are provided for at least two positions of the crease sword which deliver a warning of

the corresponding in each case position of the crease sword in each case to control means. The control means are so formed that it switches the folding machine off, if first or the second signal will not deliver particular time before to

one.

дог ▼

http://epo.worldingo.com/w/epo/epo.html?SID=EP1211212&SID_FORMAT=E&ACT... 1/12/09

Fig. 1 Scheme of the topology of the mechanism according to invention: to the control of a crease sword to

[illegible]

[2021] to the prediction of the time of the arrival of the learner, subject-matter 12 at the mechanism to readers according to the speed of the passage principle also the speed V at the location with distance D and the speed between the location must be the distance D and the mechanism to readers, this the acceleration of the learner subject-matter D on the path of the location with distance D for mechanism to readers, known beside the knowledge of the distance D to a point of the mechanism to readers, for example to the point notice 35. The speed V can become according to invention thereby either from the knowledge of such parameters, the clock frequency, throughput or such a thing, derived or calculated, or the speed V can become at the location with known distance D measured, favourable prove at least the two subsequent methods are not necessary on, on the one hand a detection of the presence of two points with distance, for example front and rear edge of the learner subject-matter 12 performed and the times of both events of the presence certain with the help of the detector 14. The speed V calculated then known-measured from the difference of the quotient. On the other hand, the mechanism in a favourable development of the invention cannot exhibit at the different other detection with likewise known, necessarily same distance D as the detector 14 for mechanism to readers, so that from the passage of the same point, for example the front or the rear edge, the learner subject-matter 12 various times the speed with the help of the same point of the different number calculated can become, becomes.

10222] From the knowledge of the speed V of the laminae subject-matter 22 and this distance D between the position
 of the detector: 21 and the front notice 36 the time of the arrival of the laminae subject-matter 22 at the mechanism
 can be determined and thus the time lag of the cross-sword movement calculated in the computing unit.
 Correction values, now they are for example due to a transposition of such required, can find consideration. With
 other words, the major influences on the movement of the laminae subject-matter 22 are essentially known, so that
 the conditions of distance 27, which are determined with the aid of the location with respect to distance D and the
 plate of the laminae subject-matter 22, can be determined. Thus the time of the arrival of the laminae subject-matter 12
 mechanism reaches the certain. Thus the time of the arrival of the laminae subject-matter 12 at the mechanism can be
 precalculated to be sure. According to the speed V of the cross-sword, principle, so that a determination of the time of releasing the
 movement of the cross-sword becomes possible. Simultaneously, the cross-sword 34 becomes provided for the cross-sword
 34 either calculated or but from determined values, which are specified, which have previously been proved 22, which exists as a
 connection to the switching mechanism 21 and the computing unit 23 and is deposited in particular in the time of the
 switching time of the cross-sword 34 and the dips and the time of the cross-sword 34 becomes deposited in particular in the
 Beyond that also a calculation of the distance between the two following subject-matters 21 and 22 and the time and the
 length of the minimum distance of the cross-sword becomes 34 the laminae subject-matter 22 becomes deposited in the
 assessment of the speed V of the cross-sword 34. The time of the arrival of the cross-sword 34 becomes deposited, and the
 cross-sword 34 becomes deposited and thus the time of the arrival of the cross-sword 34 becomes deposited, and the

machine operator can put thereby relevant data informations, as for example machine, process, material or correction parameters and units at his disposal. Over the connection to the exchange of data and/or correction parameters the computer unit 30 of the control system 20 is connected.

development between the two directions of the actual compound 32, which various thrust cankerfishes and connecting rod drive or a vice crank combination. The cross sword 34 implements a cyclic linear movement, whose direction is designated by B. By means of the cross sword 34 the laminar subject matter becomes 12, if it arrived at the front neck 36, pressed in essentially perpendicular direction the transport-direction on the dip between the false wall, whose arc 38, as more visible in this view and their other hidden lies behind it in the pipe-plant.

[0025] In an other favourable development the invention exhibits a rear edge detector 40, with whose assistance found can become whether it concerns with the laminar subject-matter crease width unit a corresponding link 12 with a connection to the exchanging data 42 with the computing unit, so that with entry of a corresponding event the drive unit can become 30 of the crease sword which desired 34 stopped moved with another velocity profile or.

[0026] In an alternative embodiment of the invention at least a signal, for example with arrival of the leading edge of the laminar subject-matter 12, becomes generated like determination of the time of the arrival of the laminar subject-matter 12 at the mechanism rebates at the rear edge detector 40, which becomes 18 transmitted over the connection the exchange of data and/or control signals 42 the computing unit.

[0027] From the knowledge of the speed V, the which analogue above the movement can take place, and the distance E between rear edge detector 40 and front notice 36 then the time of releasing the movement of the crease sword can become 34 certain after the invention process.

[0028] In another favourable development of the invention a connection exists 44 to the actual machine control 46 of the crease work or the folding machine to the exchange of data and/or control signals

[0029] A such mechanism according to invention can become in a single crease work or in folding machines a realized.

REFERENCE SYMBOL LIST

- 10 Transport means
- 12 laminar subject-matter
- 14 Detector
- 16 Connection to the exchange of data and/or control signals
- 18 Computing unit
- 20 Connection to the exchanging data
- 22 Data storage unit
- 24 Connection to the exchange of data and/or control signals
- 26 Man-machine interface
- 28 Connection to the exchange of data and/or control signals
- 30 Drive unit
- 32 Active compound
- 34 Crease sword
- 36 Front notice
- 38 Fastwale
- 40 Rear edge detector
- 42 Connection to the exchange of data and/or control signals
- 44 Connection to the exchange of data and/or control signals
- 46 Machine control.

- A Transport direction
- B Direction of movement of the crease sword
- D Distance between detector and front notice
- E Distance between rear edge detector and front notice
- V Speed of the laminar subject matter